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ABSTRACT

The prevailing assumption underlying practice in the classroom is that children acquire most of their new words from context during silent reading. The trouble with learning from silent reading is that many pupils do not read widely or quickly enough. Reading aloud to children will, however, allow them to participate in activity that they all can share in, and if some vocabulary acquisition also occurs at this time, then the less avid silent readers may well learn as much vocabulary as the enthusiastic ones. A study (with 188 children in all) was undertaken in New Zealand to explore (1) how much new vocabulary children learn from context while listening to stories; (2) how much difference it made if the teacher discussed the new word in passing; (3) whether the learning was permanent; and (4) how much the weaker readers learned relative to the good ones. Two new books were chosen (with a range of difficult words) and read to students--one with discussion and one without. Students were then given a posttest a week later. Findings indicated that much vocabulary acquisition does occur during the enjoyable experience of listening to suitable stories read aloud to the class and that teachers' explanations add substantially to the level of acquisition. Findings also showed that the lower ability children learn as many words, or more, than the bright children, and that the learning is long-term. (MS)

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New Vocabulary: *How Do Children Learn New Words?*

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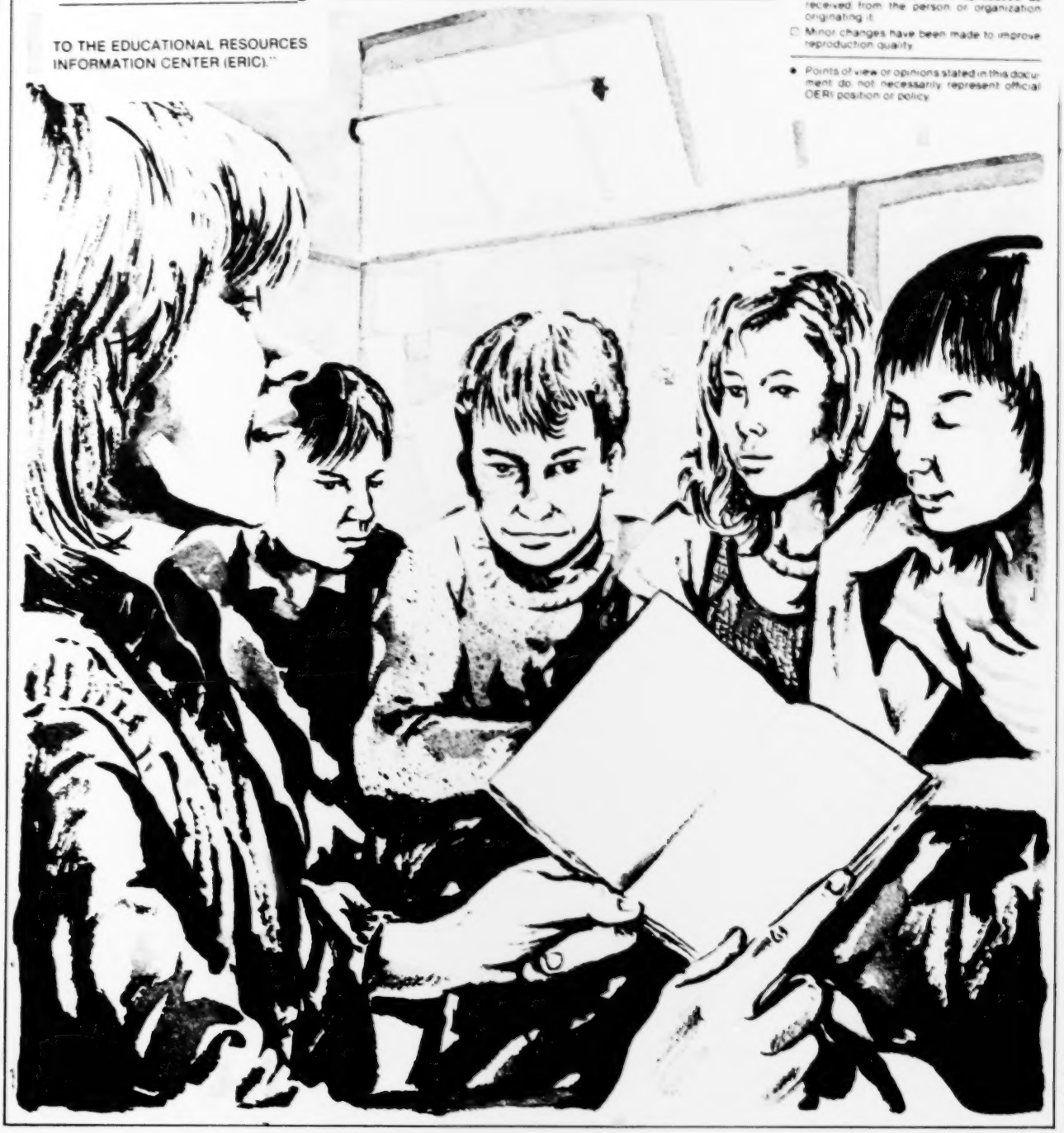

Jeff Walesby

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MOST CHILDREN IN SCHOOL learn the meanings of more than a thousand new words each year. Yet few teachers deliberately set out to drill their pupils systematically on selected word lists. Nor do children consult their dictionaries a thousand times a year. Even if they did, it is unlikely that they would remember what they read so that it became a permanent part of their lexicon.

The prevailing assumption underlying practice in the classroom is that children acquire most of their new words from context during silent reading. This has been largely an argument by default, which for most who think it through, probably goes something like this.

> Some children show extensive vocabularies. They have not been systematically drilled. They do not spend much time with dictionaries. They may watch a great deal of television, but this is not a major source of new vocabulary, as the typical popular TV programme contains very few different words (Liberman, 1986).
>
> They may learn from adult example, but most adults do not use a wide range of words in their daily conversation. As the children with the largest vocabularies tend to be the most voracious readers, then they must have acquired their new words incidentally from their reading.

Recently, more convincing evidence of this phenomenon can be found in some American research which shows that children do in fact acquire new meanings as they read. Thus Nagy, Herman and Anderson (1985) had 8th grade students read either one of two passages of over 1000 words, and were subsequently tested for the meanings of 30 unfamiliar words contained in the passages they read. 'Full adult meaning' from encountering the words in a single context was found in about 8% of cases in open-ended tests, and 12% in multiple-choice. Partial understanding of the unfamiliar words was gained in many more cases, and the authors argued that this kind of incidental learning was considerably more efficient – and pleasant – than systematic instruction on new words. Another parallel study by Jenkins, Stein and Wysocki (1986) produced similar results with 10-year-olds.

The trouble with learning from silent reading is that many pupils do not read widely or quickly enough. The avid reader goes on growing, the slow reader gets left behind, and we have yet another case of 'the rich get richer' syndrome.

Marie Clay (1967) produced some disturbing figures about this phenomenon when she estimated that high progress readers were exposed to 20,000 words in their first year of reading; low progress readers encountered only about 5000. How could they ever expect to catch up?

The issue is a serious one. A rich vocabulary is a valuable asset and an important attribute of success in any walks of life – politics, salesmanship, journalism, radio commentating, and teaching, to name a few. Verbally facile individuals have real advantages in everyday life – social events, courtship, meetings, interviews, public addresses and in private conversations. Having a range of lexical resources available enables leaders to adapt their message to their audience; or teachers to explain their point in various ways. Not surprisingly, many research studies show that vocabulary is the best single indicator of intellectual ability, and an accurate predictor of success at school. Thus, if we leave vocabulary growth to the whim of circumstance, those who read often for pleasure gain a critical resource, and increase their chances of achieving power and opportunity in the competitive aspects of life – in examinations, job selection and in positions of leadership in society.

There is, however, a ray of hope. New Zealand primary school teachers spend, on average, about 30 minutes each day reading aloud to their children, either in shared reading activities, or in straight reading aloud. (Elley, 1985). This is an activity that all children can share in, and if some vocabulary acquisition is also occurring at this time, then the less avid silent readers may well learn as much vocabulary as the enthusiastic ones.

In a recent study undertaken by the Research Committee of the Canterbury Council of the New Zealand Reading Association, we set out to explore how much new vocabulary children do learn from context while listening to stories, how much difference it made if the teacher discussed the new words in passing, how permanent the learning was, and how much the weaker readers learned relative to the good ones. We were optimistic about the possibilities of demonstrating some new learning because of an earlier study conducted by a similar committee, (Elley 1984). In this previous case, seven classrooms of Standard 1 (Year 2) children had listened to the story 'Gumdrop at Sea', without explanations, three times over a week, and had shown an average gain of 15% on 20 difficult words contained in the story. Clearly some vocabulary learning takes place incidentally, while listening to a good story.

In the recent study, conducted in the latter half of 1986, six teachers of Standard 2 classes voluntered to help.

After perusing about twenty books, we selected two which were new to all classes, were suitable for Standard 2 children, and which had a range of difficult words. We developed and trialled a pre-test of 36 unfamiliar words, in both picture form and verbal form, and administered it to all six classes to determine the baseline knowledge of the pupils. Two additional classes of similar ability were included as control groups. These children took the tests, but did not hear the stories. To increase the controls further, we added five more words to the tests, which were not encountered in the two stories.

The two stories chosen were 'Rapscallion Jones', a rather frivolous animal story, with opportunities for character discussion, by James Marshall, and 'The White Crane' a Japanese folk tale translated into English, and illustrated by Junko Morimoto.

To check out the importance of teacher discussion of the unfamiliar words, we had three teachers read one story, 'Rapscallion Jones' **without** discussion, and the other story 'The White Crane' **with** discussion, (i.e., brief explanation, example, or role play, in passing). This pattern was reversed for the other three teachers. One week after each story had been read (three times in a week) the children received a post-test on the words of that story. By waiting a week, we gave the children a chance to forget anything ephemeral. A follow-up study, four months later, on two classes, allowed us to clarify further the extent of forgetting in incidental learning of this kind.

The overall design of the study for the 8 classes can be pictured as shown in Figure 1:

Figure 1

	Day 1	Day 8-15	Day 22	Day 23-30	Day 37
Group 1 (3 classes) N = 72	Pre-test	'Rap. Jones' read 3 x *with* discussion	Post-test 'Rap. Jones'	'White Crane' read 3 x *without* discussion	Post-test 'White Crane'
Group 2 (3 classes) N = 56	"	'Rap. Jones' read 3 x *without* discussion	"	'White Crane' read 3 x *with* discussion	"
Group 3 (2 classes) N = 60	"	Control – No reading	"	Control – No reading	"

Results:

For 'Rapscallion Jones', the results were very clear. As in the previous study with Standard 1 children, the improvement for the non-discussion group from pre-test to post-test, 21 days later, was 15% overall. The children who listened to the story read without discussion did learn new vocabularly from the story.

Some words, like 'roadster', improved from a mean of 38% in the pre-test to 70% in the post-test, a gain of 32%. Likewise, 'ne'er do wells' improved from 5% to 59%, 'pizzazz' from 25% to 79%. By contrast, 'strewn' produced a mean of 7% on both occasions, showing no gain in understanding from the context alone. Also, there was no significant gain for such words as 'debonair', 'scheming', 'redistribute' or 'startling'. Apparently the context alone was not enough to point the children to understanding them in this story.

However, the results for the three classes who heard the story read **with discussion**, as planned beforehand, showed a much greater gain on almost every word, resulting in an average improvement – from pre-test to post-test – of 40%.

Clearly, the teacher's explanations for the unfamiliar words, given in passing, led to a substantially greater word acquisition, from 33% to almost 73%. In 17 out of 20 words, the mean level of understanding increased to over 50%.

Teacher explanation does make a material and stable difference to vocabulary growth during reading aloud.

Table 1

Vocabularly Learning from Three Readings of 'Rapscallion Jones', Christchurch sample (N = 128)

	Group 1 (Discussion)			Group 2 (No Discussion)		
Picture Vocab Words	Pre-test	Post-test	Gain	Pre-test	Post-test	Gain
Roadster	42%	89%	47%	38%	70%	32%
Dingy	57	88	31	64	82	18
Lolling	40	76	36	39	54	15
Strewn	14	35	21	7	7	0
Debonair	21	74	53	43	46	3
Scheming	33	57	24	45	50	5
Verbal Test Words						
Summoned	15	47	32	32	41	9
Pressing engagements	44	88	43	39	64	25
In his prime	46	67	21	43	48	5
Ne'er do wells	14	93	79	5	59	54
Spin	49	81	32	61	82	21
Outsmarted	53	79	37	61	68	7
Redistribute	0	40	40	7	4	– 3
Lend an ear	72	85	13	64	88	24
Goner	43	82	39	52	66	14
Pizzazz	24	92	68	25	79	[illegible]
Reform	50	63	13	57	61	
Rapscallion	22	86	64	34	39	
Startling	19	72	53	34	29	– 5
Over-indulged	7	58	51	48	55	7
Total %	33.2	72.65	39.90	39.94	54.60	14.8

As in earlier studies, the best results for the non-discussion group were obtained with nouns which were pictured in the story, and which were clearly assisted by the surrounding context. Thus the character Rapscallion Jones was pictured twice in a 'roadster'; the 'ne'er do wells', who also were illustrated, played an important role in the story, and 'pizzazz' was an easy inference from context for most children. In only one case was there a possible ceiling-effect, ('lend an ear'), as 72% in group 1 had it right in the pre-test, allowing less room for improvement than the remainder.

The results for 'The White Crane' were less impressive, as only three words in the 'No Discussion' group improved by more than 15% ('abundance', 'framed' and 'gasped') and the overall gain was only 4.4%. The children who heard the unfamiliar words explained by the teacher improved by 17%, from 50% to 67%. We believe the disappointing results for this story, which were out of line with several earlier projects conducted by the author, reflect the nature of the story. It was a translation of a Japanese myth, less familiar in style to the usual type of story, its language had less helpful redundancy, and it did not seem to involve the children as much as the first story. Nevertheless, the trends were in the predicted direction. Perhaps the difference between the stories indicates the importance of the level of the children's interest, as well as their understanding.

The result for the control group, as expected, showed virtually no change, from pre-test to post-test, while the five control words, inserted in the tests but not in the stories, changed by only 1.8% on average. The pre-test apparently had a negligible effect on the level of learning taking place; listening to the story was the critical factor.

Two other findings warrant special mention. First, the two experimental groups (N = 124) were diveded into four quarters on the basis of their pre-test scores.

Table 2 shows that the top quarter, who scored 23 out of 41 on the pre-test, and were clearly the pupils with the largest vocabularies, gained only 5.7 points (or 15.4%) as a result of the listening experience; by contrast, the slower pupils, starting from a lower mean of 12.5, increased their post-test average by 8.23 (or 22.9%). For once, the less able children improved more than their brighter class-mates.

Table 2

Mean Gains For Each Quarter
(Raw Scores)

	N	Mean Pre-test	Mean Post-test	Mean Gain
Top Quarter	31	23.03	28.68	5.55
2nd Quarter	31	18.58	25.42	6.84
3rd Quarter	31	16.10	23.10	7.00
Lowest Quarter	31	12.53	20.76	8.23
Total Group	124	17.56	24.49	6.91

There are several possible explanations for this finding. Some might claim that there was a partial ceiling effect for the brighter pupils. However, this is unlikely, as their pre-test mean was just over 50%, and no child showed a pre-test score of more than 73%. There could also have been some statistical regression towards the mean, but this is unlikely to be large enough to explain the difference between high and low quarters. The pre-test had a reliability index over 0.80. The encouraging aspect of this finding is that all children showed some gain, as a result of listening to stories, and the weaker children were acquiring many new words.

The other finding of importance was the virtual absence of forgetting. Four months after the last pre-test, two classes which had not heard either story again, received a post-test for each story. Surprisingly, the mean score for each class was almost identical to that of the post-tests given one week after the readings. Apparently, incidental learning, acquired in the context of an interesting story read aloud, results in stable, long-term learning.

Conclusion:

The findings reported above confirm the fact that much vocabulary acquisition does occur during the enjoyable experience of listening to suitable stories read aloud to the class. It is clear too, that teacher explanations add substantially to the level of acquisition, that the lower ability children learn as many words, or more, than the bright, and that the learning is long-term.

It is highly likely that many other aspects of language and culture are acquired in this way, and that children develop positive feelings about books and about school as well. However, the essential point of this article is that story-time is frequently productive, and not a frivolous waste of time.

Why does such a brief and pleasant activity as story-reading succeed when less enjoyable but more structured vocabularly exercises appear to fail? The critical factor may well be the level of interest of the children. When teachers are reading an absorbing story, with liveliness and appropriate expression, children usually sit still and concentrate their attention at a deeper level than at other times of the day. If they have 'high expectations of print', as a result of earlier positive experiences with stories, they know that their effort will be rewarded with humour, or excitement, or adventure, or fantasy, or some other emotion. There is a greater urgency about their attention. They feel a real need to understand and so put forth more voluntary effort when the language becomes difficult. This is a natural, intrinsic form of motivation, more pressing than the fragile incentives of many other classroom activities. So the contents are more likely to be processed at a deeper level. Relevant images and concepts come more easily from long-term memory, and link up with the words of the story in such a way as to form stable and meaningful relationships with the world inside the child's head.

Stories are popular with children for many reasons. They are usually set against a familiar backdrop, they pose little threat, they raise positive emotions, and they extend the child's understanding of human nature. For some psychologists, 'storying' is a natural form of interpreting our experience (e.g., Rosen, 1984, Wells 1986). This would explain why we love to pass so much of our social and intellectual life in reading, in listening to, and recounting stories.

Certainly, the announcement 'Now for a story' is a popular one in most classrooms. It is encouraging to realise that it is also a productive learning exercise.

Notes

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The participating teachers were Jan Barrow, Cheryl Doig, Allen Henderson, Sue Russell, Diane Brooks and Chris Sutton.

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